



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/841,462 | 04/24/2001 | Werner Obrecht | Mo-6025/LeA 34,439 | 5368 |

157 7590 03/31/2003

BAYER POLYMERS LLC
100 BAYER ROAD
PITTSBURGH, PA 15205

EXAMINER

HU, HENRY S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1713

DATE MAILED: 03/31/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/841,462

Applicant(s)

OBRECHT ET AL.

Examiner

Henry S. Hu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 8-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other:

DETAILED ACTION

1. **Applicant's election with traverse of Group I, Claims 1-7 in Paper No. 4 filed on February 27, 2003 is acknowledged.** The traversal is on the ground(s) that the non-elected group, Claims 8-16 contains a single independent claim, and is drawn to a technology apparently requiring search of a single class/subclass area. This is not found persuasive because even the group II of Claims 8-16 contains an article comprising the composition of group I, it may be on any article with any utility or application, additionally it may contains materially different components to become other products. Therefore the examiner maintains the restriction.

The requirement is still deemed proper and is therefore made **FINAL**.

This application contains claims 8-16 drawn to an invention nonelected with traverse in Paper No. 4. A complete reply to the final rejection must include **cancellation of nonelected claims** or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Specification

2. The disclosure is objected to because of the following informalities:

(a) Applicant is reminded of the proper language and format for an abstract of the disclosure.

Art Unit: 1713

The abstract on page 25 has three paragraphs. The examiner suggests the removal of the tabs on the second and third paragraphs so that it combines to become one paragraph.

The abstract should be in narrative form and generally **limited to a single paragraph** on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

(b) On page 6 at line 22, recitation "hexine" should be changed to "hexane" or something correct to be consistent with the hexane wording on the same line.

Appropriate corrections for (a) and (b) are required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1713

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 at line 2 contains the trademark/trade name of "Si 69[®]". Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade names are used to identify/describe fluorinated anionic and nonionic surfactants, accordingly the identification/description is indefinite.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The limitation of parent Claim 1 of the present invention relates to rubber compounds comprising at least one double bond-containing rubber (A) and particles of polybutadiene rubber with a glass transition temperature of $<-60^{\circ}\text{C}$ (B), whereby component (B) is present in quantities of 10-150 wt%, relative to the total quantity of component (A), and optionally other fillers and rubber auxiliary substances in conventional quantities. See other limitations of Claims 2-7.

5. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Well (US 5,905,107).

Regarding the limitation of parent Claim 1, Well discloses unvulcanized rubber mixture comprises (A) 40-100 phr of a styrene-butadiene-copolymer (S-SBR) (column 2, line 15-25, and 51-54), (B) up to 45 phr of polybutadiene (column 2, line 29-31), (C) 50-80 phr of silicic acid, and (D) various additives such as carbon black, processing aid, softener, and anti-aging agent can be included (column 2, line 41-59). Well further discloses the amounts used for (C) and (D) are in conventional quantities (column 2, line 41-59).

6. Regarding Claim 2, Well discloses the amount of **polybutadiene in the composition is up to 45 phr** as discussed in Claim 1.

Art Unit: 1713

Regarding Claim 3, Well discloses **S-SBR, NR and BR are used as component (A)** (column 2, line 15-31).

Regarding Claims 5 and 6, Well discloses specifically in the table shown on column 5 at line 15-59, **silicic acid is included** in the rubber composition and **with the activation by both "activator X50S" and "Si 69^R"**.

Regarding Claim 7, since polybutadiene rubber is used by Well as component (B) as discussed in Claim 1, its glass transition temperature thereby sets forth the claimed limitation of Claim 7.

7. Claims 1-3, 5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sandstrom et al. (US 5,534,574).

Regarding the limitation of parent Claim 1, Sandstrom et al. disclose a silica reinforced rubber composition comprises: (A) a rubber or a mixture of rubbers selected from **E-SBR, S-SBR, NR, BR and IR** as disclosed on column 5 at lines 6- 67; (B) a **polybutadiene rubber** selected from various butadiene copolymers (column 5, line 1-5), (C) a variety of **silica** selected from various sources (column 6, line 1-40), and (D) **various additives** such as carbon black, curing aid, softener, and activator (column 2, line 41-55). Sandstrom et al. further discloses **several examples demonstrated with specific rubber compositions comprise the above components (A), (B), (C) and (D) in**

Art Unit: 1713

Table 3 with the amounts for each component being used in conventional quantities (column 9, line 48-67).

8. Regarding Claim 2, Sandstrom et al. disclose the amount of **polybutadiene** is 10-120 phr (column 11, line 11-14; column 9, line 51-53):

Regarding Claim 3, Sandstrom et al. disclose **E-SBR, S-SBR, NR, BR and IR** are used as component (A) (column 6, line 6-67).

Regarding Claim 5, Sandstrom et al. disclose specifically in the **Table 3** on column 9, line 54, the **silica** which commonly known as anhydrous or hydrated can be included in the rubber composition.

Regarding Claim 7, since **polybutadiene rubber** is used by Sandstrom et al. as component (B), its glass transition temperature thereby sets forth the claimed limitation of Claim 7.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1713

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Well (US 5,905,107) or Sandstrom et al. (US 5,534,574), each individually in view of Wolpers et al. (EP 530,590 with English abstract).

The rejection of 102(b) over Well or Sandstrom sets forth above for Claim 1 is incorporated here by reference. Regarding the limitation of Claim 4, the reference is silent about using 1,6-bis(N,N'-dibenzyl thiocarbamoyl dithio)hexane. Wolpers et al. teach the compound of 1,6-bis(N,N'-dibenzyl thiocarbamoyl dithio)hexane as shown in Formula (1) is included in diene rubber composition with sulfur, mercapto- and sulfen amide-accelerators (abstract, line 1-10). The advantage is such a rubber composition will become vulcanizable so that high aging stability and reversion stability can be obtained (abstract, line 1-2). Therefore, one having ordinary skill in the art would find it obvious to modify the rubber composition of Well or Sandstrom by adding a compound of 1,6-bis(N,N'-dibenzyl thiocarbamoyl dithio)hexane as taught by Wolpers with advantage as such articles made from such a new composition is

Art Unit: 1713

expected to have high aging stability and reversion stability since its vulcanizability is improved by this specific compound.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandstrom et al. (US 5,534,574), in view of Well (US 5,905,107) and Kondo et al. (US 5,393,816).

The rejection of 102(b) over Sandstrom sets forth above for Claim 1 is incorporated here by reference. Regarding the limitation of Claim 6, the reference is silent about using Si 69^R to activate the silicic acid. Well teaches activator such as "Si 69^R" can be included in a rubber composition comprising a rubbers from SBR and NR, a polybutadiene rubber, and silicic acid (column 5, line 27-29 and 57-59). The advantage as taught by Kondo et al. is Si 69, a compound of bis(3-triethoxysilylpropyl)-tetrasulfane, can activate the silicic acid and thereby to improve the flowability in molding process (column 4, line 60-68). Therefore, one having ordinary skill in the art would find it obvious to modify the rubber composition of Sandstrom by adding a compound of Si 69^R to activate silicic acid as taught by both Well and Kondo with advantage as **such articles, made from such a new composition is expected to have high flowability in the course of molding process, thereby to obtain a practical process as well as a better product.**

Conclusion

Art Unit: 1713

12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to rubber compounds comprising double bond-containing rubber and particles of polybutadiene rubber:

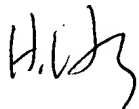
:

US Patent No. 6,111,008 to Agostini et al. disclose a rubber composition reinforced with silica and a minimal amount of carbon black (abstract, line 1-3). Silica is activated by **bis(triethoxysilylpropyl)polysulfide which is equivalent to the claimed Si 69^R activator**. However, **Agostini et al. fail to teach using a polybutadiene rubber with the claimed mixture of a rubber or a rubber mixture selected from E-SBR, S-SBR, NR, BR and IR.**

13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Henry S. Hu whose telephone number is (703) 305-4918. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (703) 308-2450. The fax number for the organization where this application or proceeding is assigned is (703) 746-9051. Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0661.

Henry S. Hu



March 21, 2003



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700